

Pearson BTEC Level 3 Nationals Extended Diploma

January 2020

Paper Reference **31644H**

Animal Management

Unit 1: Animal Breeding and Genetics

Part A

You do not need any other materials.

Instructions

- **Part A** contains material for the completion of the preparatory work for the set task.
- **Part A** may be given to learners as soon as it is received so that learners can start the preparatory period in advance of the supervised assessment session.
- **Part A** is specific to each series and this material must only be issued to learners who have been entered to undertake the task in the relevant series.
- **Part B** materials for the set task will be issued prior to the start of the supervised assessment period according to the guidance in the specification.

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Instructions to Teachers/Tutors

Centres should refer to the BTEC Nationals Instructions for Conducting External Assessments (ICEA) document for full information on the correct conduct of monitored and formally supervised assessment. See Pearson website for details.

This set task has a preparatory period. **Part A** sets out how learners should prepare for the completion of the task under supervised conditions.

Part B contains unseen material and is issued to learners at the start of the formal supervised assessment session specified by Pearson.

For **Part A**, learners should be monitored over **three hours** provided by the centre to read **Part A**, carry out research and compile notes. During this time they may only have access to research materials including books, journals, the internet and notes from prior learning. Learners must work independently and must not be given guidance or feedback on the completion of the preparatory work. Learners must not prepare potential responses, and only notes produced in monitored sessions may be used during the formal assessment. Learners may produce up to **two sides** of A4 notes, which should be handwritten or typed in a 12pt font. Notes should be short, bullet-point style information, and cannot contain long narrative pieces of text.

Learner notes produced under monitored conditions must be checked by teachers/tutors to ensure that they comply with the limitations.

Learner notes should be retained by the centre between the monitored sessions and the formal supervised assessment.

Learner notes should be retained by the centre after the completion of the assessment and may be requested by Pearson.

Instructions for Learners

Read the set task information carefully.

Part A contains the information you need to prepare for the **Part B** set task.

You will be given **three hours** of monitored preparation. Your tutor will advise you of the scheduled sessions for this work.

During these sessions you will prepare summary notes to support you during the supervised assessment. Your notes should:

- be individually and independently prepared by you
- contain a maximum of two sides of A4, either handwritten or typed in a 12pt font
- use short, bullet-point style information, and cannot contain long narrative pieces of text.

Your notes will be checked by your centre and retained after the completion of the formal supervised assessment.

You must work independently and must not share your work with other learners.

Your teacher/tutor cannot give you feedback during the preparation period.

Set Task Brief

You are required to carry out research into industry standards and practice in relation to the captive breeding of:

- **Parrot species**

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Pearson BTEC
Level 3 Nationals
Extended Diploma

Centre Number

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Learner Registration Number

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Window for supervised period:

Monday 6 January 2020 – Friday 10 January 2020

Supervised hours: 2 hours

Paper Reference **31644H**

Animal Management

Unit 1: Animal Breeding and Genetics

Part B

You do not need any other materials.

Total Marks

Instructions

- **Part A** will need to have been used in preparation for completion of **Part B**.
- **Part B** contains material for the completion of the set task under supervised conditions.
- **Part B** should be undertaken in one session timetabled by Pearson.
- **Part B** is specific to each series and this material must only be issued to learners who have been entered to undertake the task in that series.
- **Part B** should be kept securely until the start of the supervised assessment periods.
- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and learner registration number.
- Complete **all** activities.
- Answer the activities in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 80.
- The marks for **each** activity are shown in brackets
– *use this as a guide as to how much time to spend on each activity.*

Advice

- Read each activity carefully before you start to answer it.
- Try to answer every activity.
- Check your answers if you have time at the end.

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Instructions to Teachers/Tutors and/or Invigilators

This set task is a formal external assessment and must be conducted with reference to the instructions in this task and answer booklet and the BTEC Nationals Instructions for Conducting External Assessments (ICEA) document, to ensure that the supervised period is conducted correctly and that learners have the opportunity to carry out the required activities independently.

Part B set task is undertaken under formal supervision in a single session of **two hours** timetabled by Pearson.

Part B materials must be issued to learners for the specified session. Work should be completed in this task and answer booklet.

Part B set task requires learners to apply understanding gained through familiarisation with the context. Learners should bring in notes as defined in **Part A**.

The teacher/tutor needs to ensure that the notes comply with the requirements.

All learner work must be completed independently and authenticated by the teacher/tutor and/or invigilator before being submitted to Pearson.

Learners must not bring anything into the supervised environment or take anything out without teacher/tutor and/or invigilator approval.

Centres are responsible for putting in place appropriate checks to ensure that only permitted material is introduced into the supervised environment.

Maintaining security

- The assessment areas must only be accessible to the individual learners and to named members of staff.
- Learners can only access their work under supervision.
- Any work learners produce under supervision must be kept securely.
- Only permitted materials for the set task can be brought into the supervised assessment.
- During any permitted break and at the end of the session, materials must be kept securely and no items removed from the supervised assessment.
- Learners are not permitted to have access to the internet or other resources during the supervised assessment period.

Outcomes for submission

A completed task and answer booklet.

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Instructions for Learners

Read the set task information carefully.

This session is of **two hours**. Plan your time carefully.

You have prepared for the set task given in this **Part B** booklet. Use your notes prepared during **Part A** if relevant. Attempt all of **Part B**.

Your notes must be your own work and will be retained by your centre until results are issued.

You will complete this set task under supervision and your work will be kept securely during any breaks taken.

You must work independently throughout the supervised assessment period and must not share your work with other learners.

Outcomes for submission

A completed task and answer booklet.

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Set Task

You must complete ALL the activities in this task and answer booklet.

The activities in this task and answer booklet relate to **Parrot species**.

Part A Set Task Information

You are required to carry out research into industry standards and practice in relation to the captive breeding of:

- **Parrot species**

Part B Set Task Information

A local animal breeder wants to set up a business breeding parrots. The breeder has not kept birds before and wants to buy a number of breeding pairs. He has asked you to discuss the factors he needs to consider and the best species of parrot to buy for his business.

Use your notes from any preparatory work completed in **Part A**.

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Answer ALL questions. Write your answers in the spaces provided.

1 Effective breeding of parrots requires an understanding of their biology.

(a) State **two** ways parrots can recognise their sexual mates.

(2)

1

2

(b) Give the role of both parents in raising and caring for parrot chicks.

(2)

Female

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Male

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(c) Explain **two** handling techniques you could use when moving parrots.

(4)

1

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(Total for Question 1 = 8 marks)



2 (a) Explain **two** reasons for breeding captive parrots.

(4)

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A local animal breeder has found a way he can improve the profitability of his business. The breeder wants to buy a species of parrot to breed from. He will sell the birds as 'companion' animals to improve the quality of life for residents in care homes. The interactions with a social bird would improve the quality of life for the residents, and this is potentially a profitable way to sell the birds. The breeder has asked you to help him decide the factors he needs to consider before he buys the birds to breed from.

You will need to take account of the following information.

- The business is based in a large garden where there is room for two small aviaries, or one larger one. There is another outhouse that could be used.
 - As it is a private house there is limited contact with people other than the breeder.
 - The birds will live in the residents' lounge of the care homes and they will be cared for by the staff and residents.
 - The birds should have a gentle temperament so that residents can stroke them. The parrots should also 'talk' to the residents.
 - Any excess birds that are not used in care homes should also be suitable to sell to the general public.
- (b) Discuss the factors and options that the breeder should consider to achieve his aims, taking into account the desirable characteristics of the chosen species. Use your research notes to help you make a recommendation.

(12)

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(Total for Question 2 = 16 marks)



3 Feather colour in a species of small parrot is controlled by two genes.

One gene is for dark colouring and one gene is for yellow colour. These two combine to give all the possible colours seen in small parrots.

The allele for dark (D) is dominant, for light (d) it is recessive.

The allele for yellow (Y) is dominant, for blue (y) it is recessive.

Wild type birds have dominant alleles for both genes and appear green.

Birds with all recessive genes are albino (white with pink eyes).

A bird that is homozygous recessive for dark colouring (dd) but has a dominant Y will appear yellow.

A bird that is homozygous recessive for yellow colour (yy) but has a dominant D will appear blue.

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(a) Calculate the phenotypic probabilities if two green birds, which are heterozygous for both genes, are crossed.

(8)

Phenotypic probability

(b) Explain **two** of Mendel's laws of inheritance.

(4)

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(Total for Question 3 = 12 marks)



4 (a) Explain **three** requirements for the successful incubation of eggs.

(6)

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(b) Explain **two** signs of health you would monitor in a newly hatched parrot.

(4)

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(c) Explain **one** reason why you would hand-feed a newly hatched parrot chick.

(2)

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(d) Explain **two** causes of disease in young animals such as parrot chicks.

(4)

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(Total for Question 4 = 16 marks)

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5 (a) Describe **three** ways genes can interact.

(6)

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(b) Give **four** gene manipulation techniques.

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(Total for Question 5 = 10 marks)

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6 (a) Evaluate the factors to be considered when assessing the suitability of individual animals, such as parrots, for breeding programmes.

(6)

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(b) Discuss why intensive selection for desirable characteristics may not be ethical.

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(Total for Question 6 = 18 marks)

TOTAL FOR TASK = 80 MARKS



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